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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:
STEFAN KIRSCH, ET AL.	: EXAMINER: REDDY, K. P.
SERIAL NO: 10/579,096	:
FILED: MAY 12, 2006	: GROUP ART UNIT: 1713
FOR: POLYMER-CONTAINING SULFOSUCCINATE DISPERSIONS	:

APPEAL BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

This is an appeal of the Final Rejection dated October 24, 2007 of Claims 1-25. A Notice of Appeal was timely filed on January 24, 2008.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is BASF SE, having an address at 67056 Ludwigshafen, Germany.

II. RELATED APPEALS AND INTERFERENCES

Appellants, Appellants' legal representative and the assignee are aware of no appeals, interferences, or judicial proceedings which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF THE CLAIMS

Claims 1-25 stand rejected and are herein appealed.

IV. STATUS OF THE AMENDMENTS

No amendment under 37 CFR 1.116 has been filed.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

A summary of the claimed subject matter, as claimed in independent Claim 1, is mapped out below, with reference to page and line numbers in the specification added in **[bold]** after each element.

Claim 1 is drawn to a method of enhancing at least one performance property of an aqueous polymer dispersion comprising at least one water-soluble ionic compound, **[page 1, lines 5-6]** which comprises

removing at least 50 mol% of the at least one water-soluble ionic compound from the polymer dispersion, **[page 1, lines 7-8]** and

adding at least one salt of a monoalkyl or dialkyl ester of a sulfonated dicarboxylic acid. **[page 1, lines 8-9]**

VI. GROUNDS OF REJECTION

Ground (A)

Claims 1-13, 15-18, 20-21, 23 and 25 stand rejected under 35 U.S.C. § 102(b) as anticipated by US 5,286,843 (Wood '843), as evidenced by US 4,940,732 (Pastorino et al).

Ground (B)

Claims 1-13, 15-18, 20-21, 23 and 25 stand rejected under 35 U.S.C. § 102(b) as anticipated by US 5,536,811 (Wood '811), as evidenced by Pastorino et al.

Ground (C)

Claims 10-20 and 24 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over, WO 02/10306 (Kleiner et al).

Ground (D)

Claim 22 under 35 U.S.C. § 103(a) as unpatentable over Wood '843 or Wood '811 in view of US 3,964,955 [sic, US 5,879,663] (Nakabayashi et al).

Ground (E)

Claim 10 stands rejected under 35 U.S.C. § 112, second paragraph, as indefinite.

Ground (F)

Claim 25 stands rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

VII. ARGUMENT

Ground (A)

Claims 1-13, 15-18, 20-21, 23 and 25 stand rejected under 35 U.S.C. § 102(b) as anticipated by Wood '843, as evidenced by Pastorino et al. The rejection is untenable and should not be sustained.

As recited in Claim 1, an embodiment of the present invention is a method of enhancing at least one performance property of an aqueous polymer dispersion comprising at least one water-soluble ionic compound, which comprises removing at least 50 mol% of the at least one water-soluble ionic compound from the polymer dispersion ("removing" step), and adding at least one salt of a monoalkyl or dialkyl ester of a sulfonated dicarboxylic acid ("adding" step).

As described in the specification beginning at page 1, line 17, the action of water on an adhesive film leads to an unwanted clouding which is called water whitening, which clouding is known to be attributable to the presence of water-soluble ionic compounds in the adhesive film. The specification then describes that in EP-A-571069, which is from the same patent family of Wood '843 and Wood '811, which are related as parent application and divisional application, respectively, and thus have identical disclosure (Wood), *infra*, it is recommended that these ionic compounds be removed from polymer dispersions by treatment with an ion exchange resin. However, although the resulting polymer dispersions then have an improved water whitening behavior, other of their performance properties, such as poor wettability on customary substrates such as polymer films or silicone papers, result.

In addition to the discussion of Wood above, the Examiner notes that in Example 1 thereof, a product known as Emcol® 4500 surfactant is used to make a pressure sensitive adhesive formulation therein. The pressure sensitive adhesive formulation of Example 1 is then subjected to deionization in Example 3, according to Wood's invention. The Examiner relies on Pastorino et al as disclosing that Emcol® 4500 is a sodium dioctyl sulfosuccinate (column 4, lines 4-5).

Wood evidenced by Pastorino et al neither anticipates nor otherwise renders the presently-claimed method unpatentable.

Claims 1-9, 21, and 23

Method Claims 1-9, 21 and 23 are patentable because Wood evidenced by Pastorino et al neither anticipate nor otherwise suggest removing at least 50 mol% of the at least one water-soluble ionic compound from the polymer dispersion, and **then**, adding at least one salt of a monoalkyl or dialkyl ester of a sulfonated dicarboxylic acid. Indeed, the deionization in said Example 3 would result in removal of the Emcol® 4500.

In the Office Action, the Examiner finds that, in effect, Claim 1 does not specify the order of the removing and adding steps, and then finds that giving the claims their "broadest interpretation", the claims are inclusive of either order. The Examiner finds further that even if the order is specified, case law holds that the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results (citation omitted).

In reply, it is well-established that during prosecution, the claims are given their broadest, reasonable interpretation consistent with the specification. *See, e.g., In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000) and MPEP § 2111. Given the substance of each of the two steps recited in Claim 1, it is incongruous, even without resort to the specification, to find that the claims are inclusive of the otherwise same method but with the steps reversed, because the removing step would act to negate the adding step. Nevertheless, even if the claims could be construed as broadly as the Examiner finds, the Examiner's interpretation is not reasonable and not consistent with the specification. Indeed, the specification contains the word "then" before "adding" at page 1, line 8. Moreover, as described in the specification, Wood's invention was problematical because the ionic compounds were removed, resulting in poor wettability performance, for example. That is

why the present invention then adds back the recited monoalkyl or dialkyl ester of a sulfonated dicarboxylic acid.

In addition, although the rejection is one of anticipation, the Examiner finds in the Office Action that there is no evidence to support the above-discussed problems associated with Wood.

In reply, the Examiner is incorrect. Indeed, in the comparative data in the specification, Applicants disclose at page 11, lines 18-21 that the samples subjected to diafiltration without Lumiten (i.e., Lumiten I-SC is a diethylhexyl ester of sulfonated succinic acid, as described in the specification at page 11, line 11) show poor wetting behavior, but following the addition of Lumiten, the wetting of the samples on the surface to be coated was good, and the samples were dried at 90°C (3 minutes) to form homogeneous adhesive coatings.

The Examiner finds that Table 1 in the specification points to inferior resistance to water-whitening when the Lumiten is added, relying on the data at 60 minutes.

In reply, while there is a somewhat difference in result between "0" and "0-1", this difference is insignificant, especially when compared to the significant difference in wetting behavior.

Claims 10-20 and 25

Claims 10-20 and 25 are patentable because Wood evidenced by Pastorino et al because the resultant products of both Example 1 and Example 3 would clearly be different from that of the product of these claims. Example 1 would contain Emcol® 4500 and all other ionizable components. Example 3 would contain no ionizable components.

Applicants incorporate by reference their argument above with regard to the method claims as to the correct interpretation of Claim 1. Correctly interpreted, Claims 10-20 and 25 are necessarily patentable, for reasons discussed above.

For all the above reasons, it is respectfully requested that this rejection be REVERSED.

Ground (B)

Claims 1-13, 15-18, 20-21, 23 and 25 stand rejected under 35 U.S.C. § 102(b) as anticipated by Wood '811, as evidenced by Pastorino et al. The rejection is untenable and should not be sustained. As discussed above, Wood '843 and Wood '811 are related as parent application and divisional application, respectively, and thus have identical disclosure. Therefore, the argument under Ground (A), including separate patentability, is hereby incorporated by reference. Accordingly, it is respectfully requested that this rejection be REVERSED.

Ground (C)

Claims 10-20 and 24 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over, Kleiner et al. The rejection is untenable and should not be sustained.

Kleiner et al discloses a pressure sensitive adhesive composition made by emulsion polymerization, which emulsion polymer may further comprise a surfactant which comprises, based on the total weight of the dry polymer, from about 0.5% to about 1.5% by weight of sodium dialkyl sulfosuccinate, from about 0.5 to about 1.5% by weight of a particular

sulfosuccinamate, and up to about 4% by weight of ammonium or sodium salts of sulfated alkylphenoxy poly(ethyleneoxy) ethanol (page 3, lines 4-9).

Kleiner et al neither anticipates nor otherwise renders the present claims unpatentable. The aqueous polymer dispersion of the present claims would necessarily exclude the required tetrasodium (N-dicarboxy-alkyl) N-alkyl sulfosuccinamate of Kleiner et al. Clearly, it would not have been obvious to exclude a required component. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). See also MPEP 2143.01.

In the Office Action, the Examiner finds that the claims "use the transitional phase 'comprising at least one water-soluble ionic compound' and are open ended to include other ingredients such as tetrasodium (N-dicarboxy-alkyl) N-alkyl sulfosuccinamate" of Kleiner et al.

In reply, this sulfosuccinamate is necessarily excluded from Claim 10 (and claims dependent thereon) since it, as well as the optional ammonium or sodium salts of sulfated alkylphenoxy poly(ethyleneoxy) ethanol of Kleiner et al are necessarily excluded from these claims since they are not within the terms of the anionic surfactant Markush group therein. In other words, when less than 100 mol% of the water-soluble ionic compound component is removed, any anionic surfactant originally present that remains is limited to the anionic surfactant recited in the Markush group. Thus, Claim 10 necessarily excludes the above-discussed compounds of Kleiner et al.

Claim 25

Claim 25 is separately patentable, since it necessarily excludes the sulfosuccinamate and the ammonium or sodium salts of sulfated alkylphenoxy poly(ethyleneoxy) ethanol of Kleiner et al by virtue of removing substantially all of the water-soluble ionic compound

herein from the polymer dispersion, prior to adding the at least one salt of a monoalkyl or dialkyl ester of a sulfonated dicarboxylic acid. Kleiner et al neither discloses nor suggests the use of a sodium dialkyl sulfosuccinate alone therein.

For all the above reasons, it is respectfully requested that this rejection be REVERSED.

Ground (D)

Claim 22 under 35 U.S.C. § 103(a) as unpatentable over Wood '843 or Wood '811 in view of Nakabayashi et al. The rejection is untenable and should not be sustained.

Even if diafiltration were used as the deionization mechanism of Wood, the result would still not be the presently-claimed invention. Accordingly, it is respectfully requested that this rejection be REVERSED.

Ground (E)

Claim 10 stands rejected under 35 U.S.C. § 112, second paragraph, as indefinite. The rejection is untenable and should not be sustained.

Contrary to the finding by the Examiner, the recited anionic emulsifiers or protective colloids are **not** required water-soluble ionic compounds. Rather, Claim 10 simply recites that, in effect, if such anionic emulsifiers or protective colloids are used, they are limited to a particular Markush group of anionic surfactants. Clearly, Claim 10 is also inclusive of the use of no anionic emulsifiers or protective colloids, or the use of emulsifiers or protective colloids that are not anionic.

For all the above reasons, it is respectfully requested that this rejection be REVERSED.

Ground (F)

Claim 25 stands rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The rejection is untenable and should not be sustained.

It is well-settled that the test for compliance with the written description requirement is whether, as an issue of fact, a person skilled in the art would reasonably conclude from the disclosure whose filing date is being relied on that the inventor had possession as of that date of the later claimed invention, and how the disclosure accomplishes this fact is unimportant. *See, e.g., Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991), and cases cited therein. Such cases are to be decided on a "case-by-case basis." *See, e.g., Eiselstein v. Frank*, 52 F.3d 1035, 1039, 34 USPQ 2d 1467, 1470 (Fed. Cir. 1995).

Applicants describe in the specification at page 7, lines 8-10 that preferably at least 70 mol%, more preferably at least 90 mol% of the water-soluble ionic compounds are removed from the polymer dispersion. Thus, it is clear that Applicants were in possession of 100 mol% of the water-soluble ionic compounds being removed. Given the reasons described in the specification as to **why** Applicants remove the water-soluble ionic compounds, how can it possibly be found that Applicants were not in possession of an amount somewhat less than 100 mol%, i.e., substantially all of the water-soluble ionic compounds having been removed?

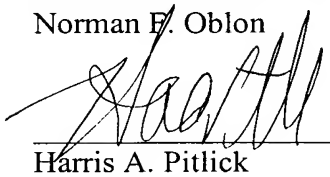
For all the above reasons, it is respectfully requested that this rejection be REVERSED.

VIII. CONCLUSION

For the above reasons, it is respectfully requested that all rejections be REVERSED.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon



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CLAIMS APPENDIX

Claim 1: A method of enhancing at least one performance property of an aqueous polymer dispersion comprising at least one water-soluble ionic compound, which comprises

removing at least 50 mol% of the at least one water-soluble ionic compound from the polymer dispersion, and

adding at least one salt of a monoalkyl or dialkyl ester of a sulfonated dicarboxylic acid.

Claim 2: The method of claim 1, wherein the aqueous polymer dispersion is obtained by emulsion polymerization.

Claim 3: The method of claim 1, wherein the dispersed polymer in the polymer dispersion is a polymer obtained by free-radical addition polymerization which is synthesized from at least 60% by weight of at least one principal monomer selected from the group consisting of C_1 to C_{20} alkyl (meth)acrylates, vinyl esters of carboxylic acids comprising up to 20 carbon atoms, vinylaromatics comprising up to 20 carbon atoms, ethylenically unsaturated nitriles, vinyl halides, vinyl ethers of alcohols comprising 1 to 10 carbon atoms, aliphatic hydrocarbons comprising 2 to 8 carbon atoms and one or two double bonds, and mixtures thereof.

Claim 4: The method of claim 1, wherein the at least one water-soluble ionic compound is an ionic emulsifier.

Claim 5: The method of claim 1, wherein at least 90 mol% of the at least one water-soluble ionic compound is removed.

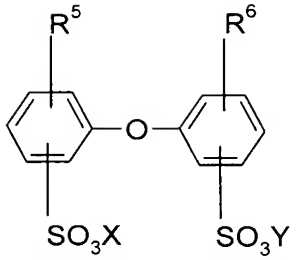
Claim 6: The method of claim 1, wherein the at least one ionic compound is removed by treating the dispersion with an ion exchanger resin, by diafiltration or by dialysis.

Claim 7: The method of claim 1, wherein the at least one salt of a monoalkyl or dialkyl ester of a sulfonated dicarboxylic acid is a dialkyl ester.

Claim 8: The method of claim 1, wherein the at least one salt of a monoalkyl or dialkyl ester of a sulfonated dicarboxylic acid is a dialkyl ester of sulfonated succinic acid.

Claim 9: The method of claim 1, wherein the at least one salt of a monoalkyl or dialkyl ester of a sulfonated dicarboxylic acid is added in an amount of from 0.01 to 5 parts by weight per 100 parts by weight of the dispersed polymer.

Claim 10: An aqueous polymer dispersion obtained by the method of claim 1, wherein anionic emulsifiers or protective colloids used to make said aqueous dispersion that are present as said water-soluble ionic compounds prior to said removing step are limited to anionic surfactants selected from the group consisting of alkali metal salts of di- C_8 to C_{12} alkyl esters of sulfosuccinic acid, alkali metal salts and ammonium salts of di- C_8 to C_{12} alkyl sulfates, C_{12} to C_{18} alkylsulfonic acids, C_9 to C_{18} alkylarylsulfonic acids, and compounds of the formula II



(II)

in which R^5 and R^6 are hydrogen or C_4 to C_{14} alkyl and are not simultaneously hydrogen, and X and Y can be alkali metal ions and/or ammonium ions.

Claim 11: An adhesive comprising the aqueous polymer dispersion of claim 10 and at least one additive.

Claim 12: A method of bonding two substrates, comprising bonding the two substrates with the adhesive of claim 11, wherein at least one of the substrates to be bonded with the adhesive is a transparent polymer film.

Claim 13: The method of claim 12, wherein the transparent polymer film comprises a backing material, and wherein the adhesive is applied to the transparent polymer film backing material.

Claim 14: The method of claim 13, wherein the transparent polymer film is a PVC film.

Claim 15: A self-adhesive article comprising the adhesive of claim 11.

Claim 16: The aqueous polymer dispersion of claim 10, in the form of an adhesive.

Claim 17: A method of bonding two substrates, comprising bonding the two substrates with the adhesive of claim 16, wherein at least one of the substrates to be bonded with the adhesive is a transparent polymer film.

Claim 18: The method of claim 17, wherein the transparent polymer film comprises a backing material, and wherein the adhesive is applied to the transparent polymer film backing material.

Claim 19: The method of claim 18, wherein the transparent polymer film is a PVC film.

Claim 20: A self-adhesive article comprising the adhesive of claim 16.

Claim 21: The method of claim 6, wherein the at least one ionic compound is removed by treating the dispersion with an ion exchanger resin.

Claim 22: The method of claim 6, wherein the at least one ionic compound is removed by diafiltration.

Claim 23: The method of claim 6, wherein the at least one ionic compound is removed by dialysis.

Claim 24: An adhesive comprising the aqueous polymer dispersion of claim 11, wherein the at least one additive is selected from the group consisting of fillers, dyes, flow agents, thickeners, tackifiers and mixtures thereof.

Claim 25: An aqueous polymer dispersion obtained by the method of claim 1, wherein substantially all of the water-soluble ionic compounds have been removed from the polymer dispersion, prior to adding the at least one salt of a monoalkyl or dialkyl ester of a sulfonated dicarboxylic acid.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.